

Abstract of the Disclosure

A method for manufacturing a semiconductor device comprises the steps of providing a semiconductor substrate, forming an interlayer insulating layer on the semiconductor substrate, forming a contact hole in the interlayer insulating layer, forming a plug recessed inside of the contact hole, forming an ohmic contact layer on the plug, depositing a La layer or a LaN layer on the ohmic contact layer, performing a nitridation process by a plasma treatment process to form a LaN diffusion barrier layer on the ohmic contact layer and sequentially forming a bottom electrode, a BLT ((Bi_xLa_y) Ti_3O_{12}) dielectric layer and a top electrode on the entire structure.